

# Work Order ID 48553

June 26, 2009 12:47:00 PM



Page 1

Item ID: D3564-11

GY

Accept



Setup Start



Revision ID: D

Stop



Item Name: Wearshoe

Start Date: 08/07/2009 Start Qty: 12.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 12.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3564

Rev D

100

0.00



FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3564 \*\*\*\*\* (D3564-1F) \*\*\*\*\* !Dwg Rev: \_\_\_\_\_ !Prog

Rev: \_\_\_\_\_ !2-Deburr if necessary

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

120

0.00



QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

# Work Order ID 48553

June 26, 2009 12:47:00 PM



Page 2

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Cust Item ID:

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Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

0.00



NC BRAKE

Brake NC

Memo

0.00

Brake NC

Deburr if necessary Form on Brake as per Dwg D3564 using Jigs DT8179

SB 09/06/30

140

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

S 09/07/01 (12)

150

0.00



Large Fab

Large Fab

Memo

0.00

Large Fab

Qty Description Batch: A/R  
m112001 Weld hardcoat as per Dwg D3437

2059B Hardcoat

- EC 9-7-7 (12)

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Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 12.00



Customer:

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Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

QC10- Inspect visual per QS1004- ground welds

0.00



QC

Memo

0.00

Quality Control

=> 809/07/07 (412)

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

=> 809/07/07 (412)

180

Grey Sandtex(Ref:4.3.5.6) per QS1005 4.3

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:

2:25pm

OVEN TEMPERATURE:

2:55pm

FINISH TIME:

320°F

09-07-07

(412) JH

M109091

# Work Order ID 48553

June 26, 2009 12:47:00 PM



Item ID: D3564-11

Accept



Setup Start



Revision ID: D

Item Name: Wearshoe

Stop



Start Date: 08/07/2009 Start Qty: 12.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 12.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

190

QC3- Inspect Part Finish

0.00

BF

09-07-7

(12)

QC

Memo

0.00

Quality Control

200

Identify as per dwg & Stock Location: FP-18

0.00



Packaging

Memo

0.00

Packaging

210

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/07/09

MF 09-07-08

Date: Friday, 12/06/2009 9:57:44 AM  
 User: Julie Dawson

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : WEARPAD
<b>Job Number</b> : 48553	
<b>Estimate Number</b> : 12785	
<b>P.O. Number</b> :	<b>Part Number</b> : D356411
<b>This Issue</b> : 12/06/2009 <b>S.O. No.</b> :	<b>Drawing Number</b> : D3564 REVD
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : / / <b>Type</b> : SMALL /MED FAB	<b>Drawing Revision</b> : D
<b>Previous Run</b> : 47432	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 23/06/2009 <b>Qty:</b> 12 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>Julie Dawson</u>	
<b>Comment</b> :	
: Est Rev:A New Issue 07-03-08 ec	
: Est Rev:B As per Rev C 07-07-09 JLM	
: Est Rev:C As per Rev D 07-09-09 JLM Verified By:EC	
: Est Rev:D Comments revised on Step 5, 6 per B44656	
09-02-06 KJ Verified By:	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	M304S16GA	304/316 Sheet .063
-----	-----------	--------------------



**Comment:** Qty.: 1.4805 sf(s)/Unit Total : 17.7660 sf(s)  
 M304S16GA Stainless steel sheet 0.063" thick  
 Batch: 111924 RB 9-6-24

2.0	WATER JET	FLOW WATER JET
-----	-----------	----------------



**Comment:** FLOW WATER JET  
 1-Cut as per Dwg D3564 \*\*\*\*\* (D3564-1F) \*\*\*\*\*  
 Dwg Rev: D  
 Prog Rev: D RB 9-6-24



2-Deburr if necessary RB 9-6-24

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



**Comment:** INSPECT PARTS AS THEY COME OFF MACHINE

4.0	QC8	SECOND CHECK
-----	-----	--------------



**Comment:** SECOND CHECK

5076664 (42)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Friday, 12/06/2009 9:57:44 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPAD

Job Number: 48553

Part Number: D356411

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

Deburr if necessary

Form on Brake as per Dwg D3564 using Jigs DT8179

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Qty	Description	Batch
A/R	2059B Hardcoat	M112001
Weld hardcoat as per Dwg D3437		

8.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

START TIME: 2:25pm  
OVEN TEMPERATURE: 320°F  
FINISH TIME: 2:55pm

Handwritten initials: JH

Handwritten date: 09-07-07

Handwritten circled number: 12

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Handwritten signature: JH 09-07-07

Handwritten circled number: 12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Friday, 12/06/2009 9:57:44 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPAD

Job Number: 48553

Part Number: D356411

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock  
Location: FP-18

09-07-07 - (12)

QW

13.0

QC21

FINAL INSPECTION/W/O RELEASE



✓

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



✓

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 48553
<b>Description:</b> Wearshoe		<b>Part Number:</b> D3564-11
<b>Inspection Dwg:</b> D3564	<b>Rev:</b> D	<b>Page 1 of 1</b>

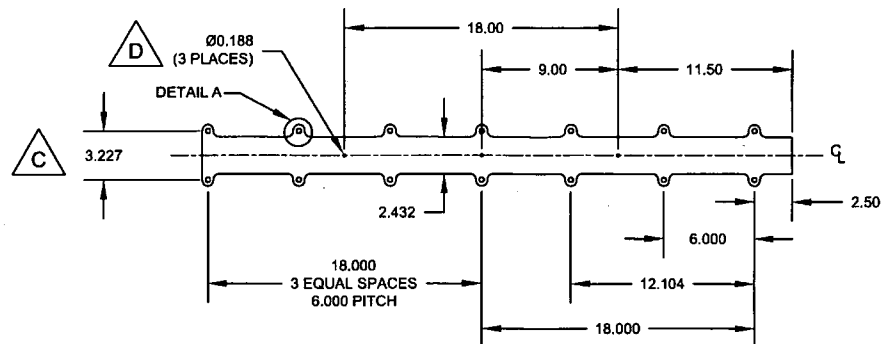
### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

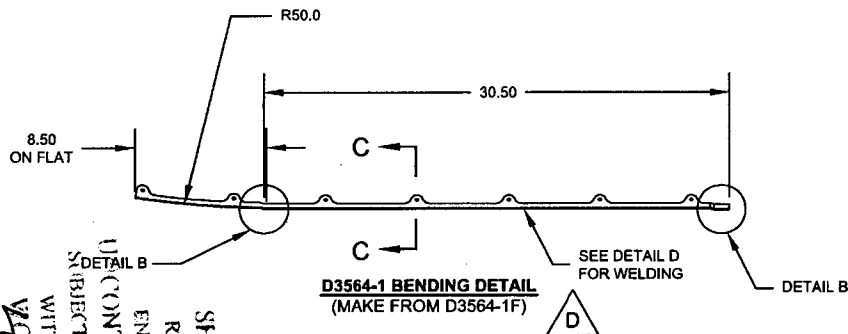
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
3.227	+/-0.010	3.226	✓			
2.432	+/-0.010	2.434	✓			
2.50	+/-0.030	2.50	✓			
6.000	+/-0.010	6.000	✓			
12.104	+/-0.010	12.104	✓			
18.000	+/-0.010	18.000	✓			
18.00	+/-0.030	18.50	✗			
9.00	+/-0.030	9.00	✓			
11.50	+/-0.030	11.50	✗			
0.300 x 0.300	+/-0.010	301 x 302	✓			
Ø0.188	+0.005/-0.001	.189	✗			
R0.375	+/-0.010	.375	✓			
0.063	+/-0.010	.059	✗			

<b>Measured by:</b> FB	<b>Audited by:</b> S	<b>Prototype Approval:</b> N/A
<b>Date:</b> 9-6-24	<b>Date:</b> 09/06/24	<b>Date:</b> N/A

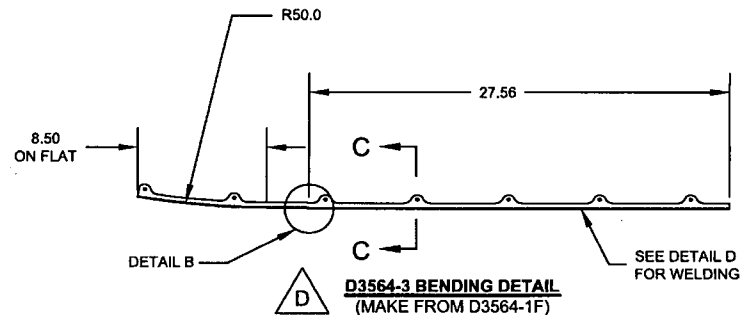
Rev	Date	Change	Revised by	Approved
A	07.09.06	New Issue	KJ/JLM	
B	07.11.23	Dwg Rev updated	KJ/EC/DD	



**D3564-1F FLAT PATTERN**



**D3564-1 BENDING DETAIL**  
(MAKE FROM D3564-1F)



**D3564-3 BENDING DETAIL**  
(MAKE FROM D3564-1F)

**RELEASED**

07.09.04

**D3564-1/-3/-5/-7/-9/-11/-13/-15 WEARPLATE NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK)  
(REF DART MATERIAL SPEC M304S16GA)
- 2) FINISH: POWDER COAT GREY SANDEX (REF 4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE TABLE IN ZONE A3
- 8) WELD PER DART QSI 004
- 9) SEE PG 3 FOR SECTIONS AND DETAILS
- 10) PARTS ARE SYMMETRIC ABOUT CL

**WEIGHTS:**

D3564-1	1.85 lbs
D3564-3	1.85 lbs
D3564-5	1.93 lbs
D3564-7	1.26 lbs
D3564-9	1.85 lbs
D3564-11	1.85 lbs
D3564-13	0.38 lbs
D3564-15	0.80 lbs

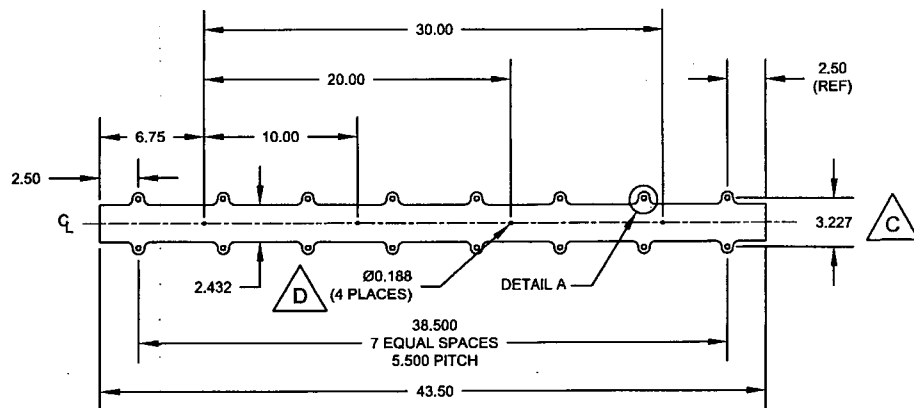
D	UPDATE DRAWING TEMPLATE: CHANGE ALL (TYP X PLS) TO (X PLACES); PG1 A8: UPDATE NOTES; PG1 A8, PG3 B5,C5: ADD D3564-15; PG1 B8,B3: D3564-1/-3 WAS ONE FIGURE; PG2 A7,A3: D3564-9/-11 WAS ONE FIGURE; PG2 A7,A3: D3564-9/-11 WAS ON PG1; PG3 B8,C8: D3564-13 WAS ON PG2; PG3 D2: WELDING DETAIL WAS ON PG1 PG3 A5,7,B2: RELOCATE DETAILS AND SECTION; PG3 A5,7,B2: INCREASE DETAIL AND SECTION SIZE	CB	07.08.21
C	MOVE TAB OUTBOARD, DETAIL A	PH	07.04.17
B	ADD AMS 5513 AND AMS 5524	PH	07.03.20
A	NEW ISSUE	PH	06.12.18
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	CB		
CHECKED	PH		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH		
DATE	07.08.21		

<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	REV. D
DRAWING NO. D3564	SHEET 1 OF 3
TITLE WEARSHOE	SCALE 1:8

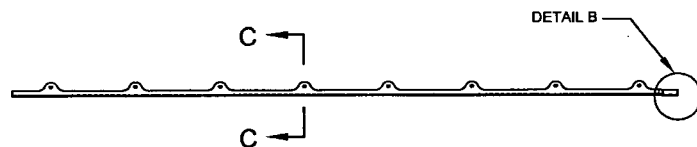
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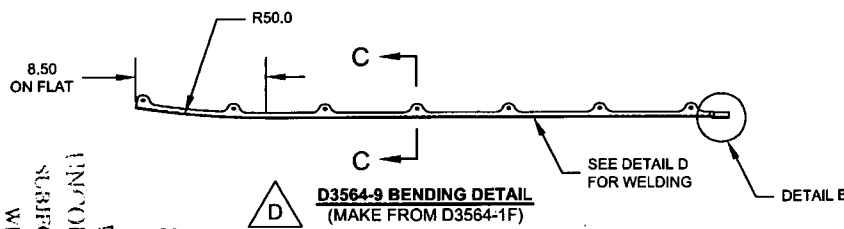
8 7 6 5 4 3 2 1



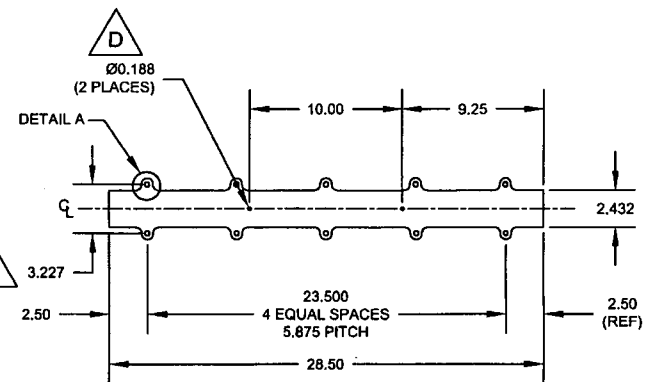
**D3564-5F FLAT PATTERN**



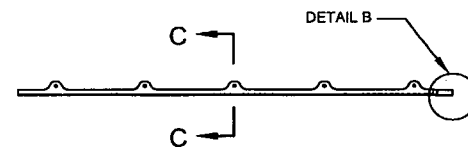
**D3564-5 BENDING DETAIL**  
(MAKE D3564-5 FROM D3564-5F)



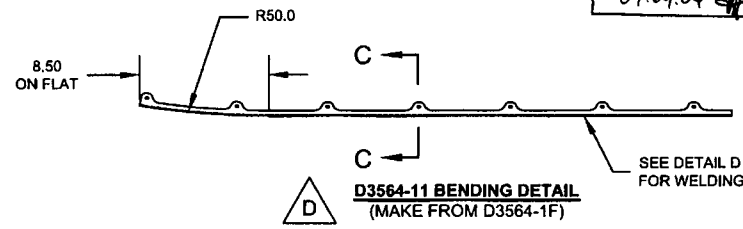
**D3564-9 BENDING DETAIL**  
(MAKE FROM D3564-1F)



**D3564-7F FLAT PATTERN**



**D3564-7 BENDING DETAIL**  
(MAKE D3564-7 FROM D3564-7F)



**D3564-11 BENDING DETAIL**  
(MAKE FROM D3564-1F)

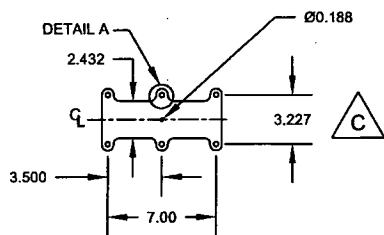
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07.09.04

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W. K. O'DRISCOLL

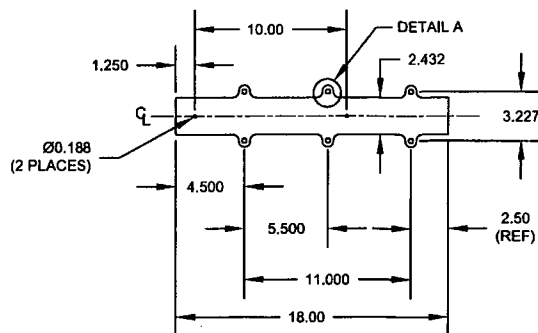
DESIGN	PH	<b>DART AEROSPACE LTD</b>	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D3564	SHEET 2 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	WEARSHOE	1:8
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8 7 6 5 4 3 2 1

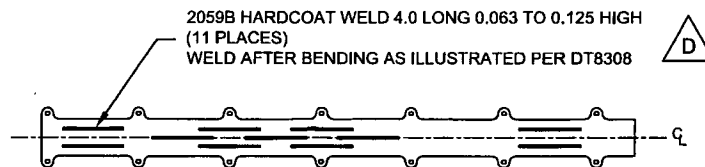
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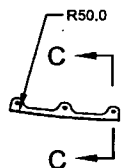
**D3564-13F FLAT PATTERN**



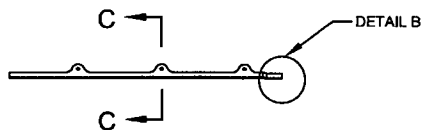
**D3564-15F FLAT PATTERN**



**DETAIL D**  
(D3564-1/-3/-9/-11 WELDING DETAIL)



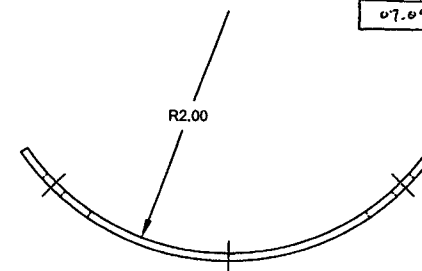
**D3564-13 BENDING DETAIL**  
(MAKE D3564-13 FROM D3564-13F)



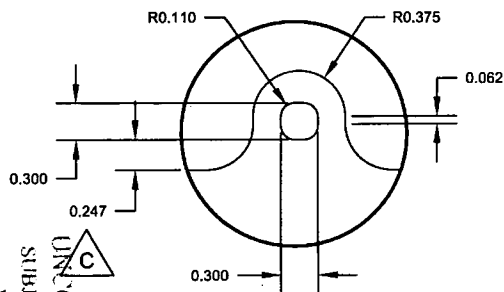
**D3564-15 BENDING DETAIL**  
(MAKE D3564-15 FROM D3564-15F)

**RELEASED**

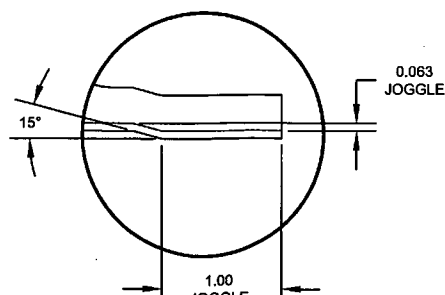
07.09.04



**SECTION C-C**  
SCALE 1:1



**DETAIL A**  
SCALE 1:1



**DETAIL B**  
SCALE 1:1

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3564	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		WEARSHOE	1:8
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